



SWARC NEWS

Meeting Notes

SWARC 8 JULY MEETING MINUTES

The meeting was called to order at 7:00 pm by President Mike Gaither, K4MWG.

The Pledge of Allegiance was led by Bernie Jones, N4BAJ.

Introductions were made throughout the room; approximately 30+ members and guests were in attendance.

Club Treasurer Christine Fernandini, KJ4AEO, reported a bank balance of \$6,983.30. She noted that, even though the raffles prizes totaled \$1,000.00, the winners took only \$150.00 between them so the club made out okay on ticket sales. President Mike Gaither, K4MWG, said that he would donate a brand new DMR unit for the next raffle. Steve Mowels, KA0GMY, suggested that we add a SWR/PWR meter to the raffle.

David Sosnin, N4TTN, is the new Membership Director; see him or the web site for renewal instructions.

Field Day: The Bake Sale was not as successful as hoped. Steve Mowels, KA0GMY, moved that we donate \$250.00 to help offset expenses; motion was seconded and carried. Field Day attendance was approximately 31 members and guests that I was aware of. I probably missed a bunch up at the GOTA site as I did not get up there. Some of our 'ham' guests participated in making QSOs from the K4MWG's setup down near Johnson Pond Road.

New Business: Steve Mowels, KA0GMY, discussed bringing back the Ham of the Year recognition program. Richard Hall, K7RLH, moved that we reinstate the program; motion was seconded and carried.

Program: Brian Knox, KK4BK, stated that tonight's program would be presented by Ed Fong in California via Skype. Ed Fong noted that getting into digital radio is neither expensive or hard as shown in his presentation.

The meeting adjourned at 8:15 pm.

Due to circumstances beyond the clubs control, the August meeting is canceled.

We thought of trying to find another place, but on such short notice, the task was quite a step.

Sorry for the short notice.

KK4BK

NET Report

Please we ask that all net reports be sent to Joe at

draftin_driver3226@yahoo.com

Joe did comment that only one or two net controls were turning in the net reports. Please send your reports to Joe.

Joe, KM4YTF is on the lookout for new net control operators. If interested please contact Joe, KM4YTF.

**South Wake Amateur Radio Club Treasurer Report
June 2019**

Club Addition and Reduction Activity

Additions

Dues	35.00	check #8441	Charles (W4DBI) and Denise Galloway
Dues	42.50	cash	Michael Day (KM4JEK)
Dues	60.00	check #7184	John Daniel (KM4YLF) 2018-2019 & 2019-2020
Dues	8.00	cash	Ken Elder (K5MPX)
Dues	35.00	check #4016	Michael (KD4MC) and Velda (K4USC) Callam
Dues	35.00	cash	Michael (K4MWG) and Marisa Gaither
Dues	35.00	cash	Greg (N9PGG) and Diane (KG4RDL) Gabry
Dues	30.00	cash	Dianne Young (KE4VNX)
Dues	37.50	cash	Jon Davidson (KM4PFL)
Dues	35.00	check #4162	Gino (KI4YXO) and Christy (KJ4AEO) Fernandini
Meal	125.00	cash	collection for meal
Raffle	950.00	cash/check	collection for June Raffle (2 gift certificates \$800 and \$200)
Donation	20.00	check #8440	

Total Additions 1448.00

Reductions

Meal	82.00	cash	reimbursed David Sosnin
Donation	500.00	check #1676	Donation to Danny Hampton
Raffle Prize	150.00	cash	\$800 winner Mike Ramsey (KD4OKR)-only accepted \$150

Total Reductions 732.00

RBC Bank Account Activity

Balance as of 06/03/2019	6267.30		
Addition	1448.00		
Reduction	732.00		

Balance as of 07/08/2019 6983.30

Christine Fernandini KJ4AEO 07/08/2019

MEMBERSHIP

Just a reminder that it is time to pay membership dues for the 2019-2020 time frame.

\$30 for individual and \$5 for each family member.

You can bring a check or cash to the meeting Monday July 8th or mail them to the club PO box and Christy will let me know she has received them so I can update the list. If you mail them, give me a heads up so I can mark it as pending on the roster.

Makes checks payable to South Wake ARC.

If you are going to mail it, send it to South Wake ARC – PO Box 1565 – Fuquay Varina, NC 27526

I have taken over as Membership Director from Ryan, so please direct any questions to me.

I will be developing an online form so new members can fill out the application online and mail or bring a check to a meeting.

I will be reaching out to all members here soon to make sure I have the latest contact information, addresses, etc so I can make sure the membership list reflects current information.

Thanks

David Sosnin

N4TTN

n4ttn.radio@gmail.com

Public Service

Check the RARS web site often for Public Service opportunities.

SWARC 5 AUG BOARD MEETING MINUTES

The meeting was called to order at 7:00 pm by President Mike Gaither, K4MWG.

Present were: K4MWG-Mike, N4TTN-David, KK4BK-Brian, WA4TCJ-Al, KN4PSR-Dan and K7RLH-Richard.

The board reviewed and discussed quotes received to cut in a new door in the end wall of the radio room. One more proposal is expected soon. After much discussion, the board is in agreement to move forward with the lowest bidder and spend the \$3,000.00 already approved for the original 'building' to get the new handicap-accessible door installed. This will allow other interior work to be completed and make the facility usable.

September's Member Meeting will be held on 5 September (Thursday) and will be the club fall picnic. We will be in Building 2 on the American Legion property. Club will furnish hamburgers, hot dogs, and buns. Members will be asked to sign up for side dishes including such things as tomatoes, lettuce, and onions for garnishing burgers, etc. Check the web site for the normal signup procedure.

The meeting adjourned at 7:35 pm.

73,

Richard Hall – K7RLH

Secretary

NC4FB

Faced with Home Owner's Association (HOA) antenna restrictions but have an accessible attic or garage? With a little work and some #14 THHN wire, you may be able to operate very effectively on the 20-6 meter bands using a stacked loop antenna array. Due to its direct coupling to the magnetic field, unlike most other antenna types, a loop antenna is relatively insensitive to electric-field noise from nearby sources such as electrical wiring, powered attic vent fans, air handlers, etc.

Read about the antenna array at the link below. Placement of the antenna feed points will influence the shapes and orientation of the radiation patterns.

<https://ars.nc4fb.org/attic-antennas/stacked-loop-attic-antenna.pdf>

Accessible attic and garage ceiling configurations vary considerably from dwelling to dwelling. The good news is the antenna loop shapes can be altered (within limits) to fit the available space. The antenna array described is comprised of square loops fed in the centers of the same sides. The loops can be rectangular or in extreme situations irregular in shape to conform to the available space.

Don't have a 4:1 current balun? Contact Ron Cooney (K4AAA, ron.cooney@gmail.com) for tips on how to make one. Ron makes his own baluns and ununs.

THHN wire for the loops is available from Lowes and Home Depot. I recommend [Wireman](#) 554 ladder line for the transmission line. Depending on the attic or garage rafter configuration, you

may be able to use screw eyes in the rafters to secure the loops. "Make up" lines from the rafters to the loop corners can be used to maintain the stacked array shape.

If you're interested in discussing the antenna or an antenna configuration for your particular situation, contact me at nc4fb@nc.rr.com.

Fred

Fred Benson
NC4FB

<https://nc4fb.org>

- The 2019-2023 General license exam cycle became effective July 1, 2019. The new ARRL General Class License Manual (GCLM) is now available from the ARRL Bookstore or Amazon.com. If you're going to purchase a copy make sure it is the 9th ed. (ISBN:978-1-62595-106-9). The current General license question pool contains 454 questions and one figure (G7-1).

License exam schedule for the remainder of 2019.

If you need assistance or know of someone who needs assistance in preparing for a license exam (Technician, General, Amateur Extra), contact Ron Cooney (K4AAA; ron.cooney@gmail.com) or Fred Benson (NC4FB; nc4fb@nc.rr.com).

If you're interested in obtaining an FCC Commercial Radio license, contact Fred Benson (nc4fb@nc.rr.com). FCC license exam testing is now online so no trips to a designated testing center are required. If you passed the Amateur Extra license exam prior to April 15, 2000 (proof required), you will be given credit for the Telegraphy requirement of the FCC Radiotelegraph license (T) exam. All you have to do to obtain the T license is pass the exams for Element 1 and Element 6. Passing the element 1 exam also earns you a lifetime Marine Radio Operator's Permit (MROP). The T license is essentially a "trophy license" but why not hang it on the wall along with the rest of your awards. Serial numbers assigned to T licenses are very low because so few have been issued. FCC Commercial license exam testing and application filing is handled by an FCC certified [COLEM](#).

You need a commercial radio operator license to operate the following:

Ship radio stations if:

- the vessel carries more than six passengers for hire; or
- the radio operates on medium frequencies (MF) or high frequencies (HF); or
- the ship sails to foreign ports; or
- the ship station transmits radiotelegraphy; or
- the ship is larger than 300 gross tons and is required by law to carry a radio station for safety purposes.
- Aircraft radio stations, except those which operate only on very high frequencies (VHF) and do not make foreign flights.

For more information on ship radio stations, check the link below.

<https://www.fcc.gov/wireless/bureau-divisions/mobility-division/ship-radio-stations>

TIP: Are you planning a "getaway hiking/camping adventure" to some remote area with unknown cell service or venturing out to sea (12 miles or further) on a small vessel, consider renting or purchasing a personal locator beacon (PLB) or a Satellite Messenger. PLB's provide one-way SOS satellite distress signals with locator information and have to be registered with the NOAA SARSAT (Search and Rescue Satellite Aided Tracking) database. No subscription service is required for PLBs. Satellite Messengers are a more expensive option, require subscription services, and provide SOS emergency locator signals as well as 2-way communication capability.

Another "in the water" emergency option is a Personal AIS Beacon (PAB). PABs are intended to be attached to your life vest and automatically activate if you go overboard. They use both GPS and AIS (Automatic Identification System) technology to send structured alert messages containing your precise location information to any AIS receiver onboard your vessel and to other AIS-equipped boats, ships, or airplanes that happen to be within a four-mile radius.

Free Amateur and FCC Commercial online self-study license exam prep systems are available at the link below. If you know of a license candidate with special needs, help is available.

<https://nc4fb.org>

Fred

Fred Benson
NC4FB

Anyone interested in learning about antenna modeling or trying your hand at it, see me at the club meeting tonight. NC4FB on my ball cap and the back of my tee shirt.

Fred

Fred Benson

NC4FB

<https://nc4fb.org>

Cape Cod ARES and SKYWARN Provide Support in Rare Cape Cod Tornado Event

08/02/2019

Cape Cod, Massachusetts, ARES, and SKYWARN Amateur Radio volunteers were promptly pressed into action as a storm system on July 23 produced severe thunderstorms that spawned three tornadoes over the Cape. Hurricane-force wind also resulted in significant tree and utility wire damage across Cape Cod, with particularly hard-hit communities including Hyannis, Yarmouth, and Chatham. Some pockets of wind damage also occurred in the northwest corner of Martha's Vineyard.

Amateur Radio SKYWARN spotters were the first to provide critical ground truth information regarding the significant wind damage and tornadoes across Cape Cod. Under the direction of Cape Cod District Emergency Coordinator Frank O'Laughlin, WQ1O, and Eastern Massachusetts Section Emergency Coordinator Rob Macedo, KD1CY, a SKYWARN net ran for several hour on a Barnstable, Massachusetts, VHF repeater. Numerous damage reports were received during the net and for a couple hours after the storm had passed.

At that point, Amateur Radio operations shifted to an ARES net supporting communications between a shelter at the Dennis-Yarmouth School and the Barnstable County Emergency Operations Center, which serves as the Multiagency Coordination Center (MACC).

"Dozens of reports of trees and wires down and some structural damage reports were received during the SKYWARN net, and Amateur Radio operators supported initial damage assessment in the hardest hit areas and provided photos and videos that were shared via social media and other outlets," Macedo said. "This provided critical situational awareness and disaster intelligence information to the National Weather Service (NWS), state emergency management, and local media outlets, and helped to diagnose the areas for NWS meteorologists to survey to determine whether a tornado or straight-line wind damage occurred."

ARES support for the Dennis-Yarmouth shelter as well as Amateur Radio operations at the Barnstable County MACC continued around the clock, with six radio amateurs engaged in shelter and EOC communications over the course of about 2 days. The severe weather knocked out power for some 53,000 customers on Cape Cod, and it took utilities several days to repair the damage and restore service.

"Traffic that was handled was on the logistics of taking care of people who stayed in the shelter until power restoration efforts were near completion," O'Laughlin explained.

A NWS-Norton survey team consisting of several meteorologists surveyed the damage and confirmed three tornadoes on Cape Cod in addition to destructive straight-line winds. The three tornadoes hit in West Yarmouth, Yarmouth, and Harwich. Since tornado records have been kept, starting in 1950, only three tornadoes were recorded on Cape Cod up until last year, highlighting the rarity of the July 23 weather event. — *Thanks to Rob Macedo, KD1CY*

AMSAT and ARISS Designing Amateur Radio System for Lunar Gateway

08/06/2019

Details are still being fleshed out, but **AMSAT** and **ARRISS** are working on the design of an Amateur Radio system for NASA's Lunar Gateway. As NASA explains, the Gateway "will be a small spaceship in orbit around the moon that will provide access to more of the lunar surface than ever before with living quarters for astronauts, a lab for science and research, ports for visiting spacecraft, and more." For NASA, the Lunar Gateway is "a spaceport for human and robotic exploration to the moon and beyond." For radio amateurs, the Lunar Gateway will represent the next step in moving ham radio out of low-Earth orbit and into deep space. Under the current **timeline**, initial sections of the Gateway are scheduled to launch in 2022, with the Gateway in lunar orbit by 2026.

"To make this happen, we are leveraging the work and expertise of the worldwide AMSAT organizations and the international ARISS community in this endeavor," ARISS-International Chair and AMSAT Vice President for Human Spaceflight Programs Frank Bauer, KA3HDO, said. "We have an international team working on this and are meeting twice a month to mature the concept." The ARISS concept was presented to NASA in May and got positive feedback, and was favorably received a few weeks later at the ARISS-International meeting in Montreal from the Canadian Space Agency's Gateway Program Manager.

"The Amateur Radio Exploration (AREx) team has done some really good work," Bauer continued. "The challenge for amateurs will be on the order of a 30 dB signal path loss as compared to LEO. But the link margins on our design seem too close."

The Lunar Gateway will serve as a solar-powered communication hub, science lab, short-term habitation module, and a holding area for rovers and other robots that may be bound for the moon or for other planets. NASA is leading the project in collaboration with commercial and international partners, and all of the International Space Station partners. This includes the European Space Agency, Roscosmos (Russia), JAXA (Japan), and the Canadian Space Agency.

One of the project's facets now under discussion within the AREx Working Group is a phased-array antenna that can be electronically directed. The Lunar Gateway group has told ARISS that it is important to get in on Phase 1 of the Lunar Gateway program and develop its system early on. "We need to develop a block diagram of a system and subsystems and find team members who want to work on each," Bauer said when the ARISS-International team met in Montreal. "We must set up requirements and interface documentation. We need to solidify the frequencies to use, working with the International Space Frequency Coordination Group."

ARRISS ARRL Representative Rosalie White, K1STO, said that ARISS wants to spread the word about the new initiative. "Doing so will help bring in greatly needed new volunteers to join the team and assist with what unique things must be done," she said. "When able, face-to-face meetings must be held with team leaders to define roles for team members and to develop hardware plans." White also hopes the new project may inspire the **generosity** of the Amateur Radio community.

BOARD OF DIRECTORS

Appointed Positions

President

Mike Gaither – K4MWG

Vice President

Brian Knox – KK4BK

Secretary

Rich Hall, K7RLH

Treasurer

Christy Fernandini - KJ4AEO

Member-At-Large

Al Crawford – WA4TCJ

Member-At-Large

Charles Bruckner – KG4MXV

Member-At-Large

Dan Gilbertson

Membership Chair

David Sossin – N4TTN

NET MANAGER

Joe - KM4YTF

Special Events Director

Gino Fernandini – KI4YXO

Public Service Director

David Krum – NW3U

SWARC Mission Statement

South Wake ARC's primary purpose is to further the Amateur Radio Service through programs, activities, and education, in order to promote the radio knowledge, fraternalism and individual operating efficiency of our members. Further, it shall be our purpose to support the welfare of our community through public service including radio communications for emergency situations and public events, and through providing information, training, and assistance to individuals or organizations with an interest in the Amateur Radio Service.

LINKS (if you have other links you want added then send them to me)

PRN

A Wide Area Digital Amateur Radio Network

www.ncprn.net

GigaParts

www.gigaparts.com

QRZ

www.qrz.com

Ham Radio Outlet HRO

www.hamradio.com

Raleigh Amateur Radio Society RARS

www.rars.org

Johnson Amateur Radio Society JARS

www.jars..net

South Wake Amateur Radio Club SWARC

www.southwakearc.com



